

## ABSTRACT

The Floating Diffusion charge detection system has incorporated a signal feedback directly into the charge-detection node. The feedback is coupled to the node from the output of the standard buffer amplifier A1 through a feedback amplifier A3, switching transistors S2 and S3, and capacitors  $C_f$  and  $C_h$ . The feedback significantly reduces kTC noise, has good linearity, and improves DR.

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